

# **NIAID Bioinformatics Resource Centers (BRCs)**

## **For Biodefense and Emerging and Re-Emerging Diseases**

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# Outline

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- Introduction to the NIAID  
Bioinformatics Resource Centers
- Goals of the BRCs kick-off meeting
- Next programmatic meeting

## **Goal**

**To provide the scientific community with a robust point of entry for access of genomic and related data in a user-friendly format.**

**The centers focus on the organisms listed in the NIAID Category A-C priority list or pathogens causing emerging or re-emerging diseases that are relevant for biodefense**

**To facilitate the identification of potential targets for the development of vaccines, therapeutics and diagnostics**

# BRCs' components

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- ❑ Databases of *genomics and related data*
- ❑ Interfaces to the DB
- ❑ Develop and distribute novel open source software and SOPs
- ❑ Multi-disciplinary teams are part of every BRC
- ❑ Interaction among BRCs and with the external scientific community

**The NIAID BRCs initiative is a R&D contract**

# Bioinformatics Resource Centers

- **The Institute for Genomic Research**  
**PI:** Dr. Owen White  
*Bacillus anthracis, Clostridium botulinum, Francisella tularensis, Burkholderia mallei, Burkholderia pseudomallei, Clostridium perfringens*
- **University of Pennsylvania; University of Georgia**  
**PI:** Dr. David Roos, U-Penn  
 Apicomplexa species:  
*Toxoplasma gondii, Cryptosporidium parvum, Plasmodium phylum*
- **University of Notre Dame (UND); European Bioinformatics Institute; European Molecular Biology Laboratory; Institute of Molecular Biology and Biotechnology; Harvard University; Purdue University; University of California Riverside**  
**PI:** Dr. Frank Collins, UND  
 Invertebrate vectors of human pathogens:  
*Anopheles gambiae, Aedes aegypti, An. funestus, Culex pipiens, Ixodes scapularis*
- **SRA International; University of Wisconsin Madison**  
**PI:** Dr. John Greene, SRA  
*Yersinia pestis, Diarrheagenic E. coli, Yersinia enterocolitica, Shigella, Salmonella*
- **Virginia Bioinformatics Institute (VBI); Loyola University Medical Center; Social and Scientific Systems; University of Maryland**  
**PI:** Dr. Bruno Sobral, VBI  
*Rickettsiae species, Brucella species, Coxiella burnetii, Calicivirus, Hepatitis A virus, Rabies virus, Coronavirus*
- **University of Alabama Birmingham (UAB); University of Victoria, Canada**  
**PI:** Dr. Elliot Lefkowitz, UAB  
*Variola major virus, Arenavirus, Hanta virus, Rift Valley fever virus, Ebola virus, Marburg virus, Dengue virus, California encephalitis group virus, Kyasanar forest disease virus, Omsk hemorrhagic fever virus, West Nile virus, Alphavirus, Hantaan virus, Puumala virus, Crimean-Congo hemorrhagic fever virus, Yellow fever virus, Tick-borne encephalitis, Nipah virus, Equine morbillivirus*
- **Northrop Grumman; University of Texas Southwestern Medical Center (UTSMC); Vecna Technologies; Amar International**  
**PI:** Dr. Richard Scheuermann, UTSMC  
*Giardia lamblia, Entamoeba histolytica, Microsporidia, Ricinus communis, Multi-drug resistant Mycobacterium tuberculosis, Influenza virus*
- **University of Chicago (UC); Fellowship for Interpretation of Genomes; University of Illinois Urbana-Champaign**  
**PI:** Prof. Rick Stevens, UC  
*Staphylococcus aureus, pathogenic vibrios, Listeria monocytogenes, Campylobacter jejuni, Streptococcus pyogenes, Streptococcus pneumoniae*

# BRCs kick-off meeting agenda

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- ☐ General introduction from all the BRCs
- ☐ BRCs Interoperability session
  - Round table discussion
  - Establishment of the IOWG
- ☐ Other relevant NIAID Initiatives
- ☐ Host/pathogen interaction session
  - Panel discussion
  - Establishment of a working group
- ☐ Food:
  - light breakfast on both days
  - Sign up for today's lunch !
- ☐ Presentations and Meeting Summary
  - will be posted on the NIAID BRC web site

# Next programmatic meeting

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## □ Options

- In late spring 2005
- At one of the BRCs sites
- Focus on 1-2 scientific topics to be selected (i.e. genome annotation systems, ontologies development, etc.)

Volunteer sites needed

# Acknowledgments for the meeting and agenda organization

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